CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2007-____

WASTE DISCHARGE REQUIREMENTS
FOR
PIXLEY PUBLIC UTILITY DISTRICT
WASTEWATER TREATMENT FACILITY
TULARE COUNTY

TENTATIVE ORDER

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Water Board) finds that:

1. The Pixley Public Utility District (hereafter Discharger or District) submitted a Report of Waste Discharge (RWD), dated 5 April 2005, for modification and expansion (hereafter Expansion Project) of its wastewater treatment facility (WWTF) for the unincorporated community of Pixley, Tulare County. The RWD proposes to expand the existing WWTF to 0.5 million gallons per day (mgd). The WWTF provides services for about 2,600 residents and is running at or near its average daily flow limit of 0.29 mgd. Currently there are no industrial users connected to the WWTF.

2. The WWTF is at 2051 Avenue 96, approximately one mile east of the community of Pixley, in Section 6, Township 23 South, Range 25 East, MDB&M, as shown on Attachment A, which is attached hereto and made part of this Order by reference.

3. Waste Discharge Requirements (WDRs) Order No. R5-2000-096 adopted on 28 April 2000, restricted the monthly average discharge flow to 0.29 mgd following modifications completed in 2001. The WDRs prescribed effluent limitations on a monthly average basis for 5-day biochemical oxygen demand (BOD_5), total suspended solids, and settleable solids (SS). This Order does not reflect the conditions of the Expansion Project. Cease and Desist Order No. R5-2000-097 (CDO), adopted on 28 April 2000, required the Discharger to perform a series of tasks according to a time schedule to complete the expansion of the WWTF. The Discharger missed several of the completion dates in the time schedule in the CDO, but eventually completed all tasks except for construction of an expanded WWTF. An updated enforcement order that is to be considered separately requires the Discharger to complete the Expansion Project.

4. The purpose of this Order is to rescind WDRs Order No. R5-2000-096 and prescribe requirements that reflect the Discharger's Expansion Project.

5. The RWD presents information on site conditions, the existing wastewater treatment process and quality, and the conceptual design of the Expansion Project.

Existing Wastewater Treatment Facility

6. The existing WWTF consists of headworks with a communitor and three lift pumps. Wastewater is treated in a clarigester and two unlined aerated treatment ponds operated in series. The headworks, lift station, and clarigester are old, difficult to maintain, and being operated at or above their designed capacity. The undisinfected secondary treated effluent is stored in five unlined stabilization/storage ponds until used to irrigate approximately 43 acres of pasture owned by the District for grazing non-milking cattle.

7. Wastewater enters the headworks via a 12-inch Vitrified Clay Pipe (VCP) sewer main. The sewer enters below the ground surface through an open channel and the comminutor. The invert of the sewer at the headworks is 14.8 feet below grade. Flow from the comminutor enters a pump pit/wet well. The WWTF has three vertical shaft dry pit centrifugal pumps to lift the wastewater to the clarigester.

8. The Clarigester is an Imhoff type tank which doubles as a primary clarifier and unmixed anerobic digester. From the clarigester the effluent is directed into the first of two aerated Treatment Ponds with a combined capacity of about 9.8 acre-feet. Aeration in the Treatment Ponds is provided by two 10-horsepower mechanical surface aerators.

9. After the Treatment Ponds, the WWTF has five stabilization/storage ponds, which range from 4 to 15 feet deep and have a combined storage capacity of about 72 acre-feet.

10. Sludge from the clarigester is wasted about once every three months to one of the unlined sludge drying beds. After it is dried, the sludge is removed and stockpiled at the WWTF. The Discharger estimates that the WWTF generates about 30 tons of sludge annually. Current sludge storage and handling facilities are unlined.

11. Since 1993, the Discharger has stockpiled dried sludge at the WWTF. Prior to 1993, the Discharger used dried sludge as a soil amendment on agricultural lands. The Discharger proposes that the existing sludge stockpile and sludge settled from the bottom of the Treatment Ponds be removed during the construction phase of the Expansion Project.

12. Self-monitoring reports from 2006 indicate that winter flows are not higher than summer flows, demonstrating insignificant inflow and infiltration to the collection system during winter months.

13. Self-monitoring data from January 2006 to December 2006 characterize the discharge as follows:

Constituent/Parameter	Units	Influent	Effluent	% Removal[1]
Monthly Average Discharge Flow	mgd	0.284	NS[2]	--
BOD[3]	Mg/L	207	43	79%
Settleable Solids	ML/L	NS	0.1	--
TSS[4]	Mg/L	NS	43.6	--
EC[5]	µmhos/cm	NS	580	--
Total Nitrogen[6]	mg/L	NS	25.5	--

1 Percent removal (% removal)

2 Not sampled (NS)

3 5-day biochemical oxygen demand (BOD)

4 Total suspended solids (TSS)

5 Electrical conductivity at 25ºC (EC)

6 Calculated by summing the concentrations of nitrate as nitrogen and TKN, and assuming the concentration of nitrite is negligible.

14. On average, the EC of the WWTF effluent is about 340 µmhos/cm over the source water.

Expansion Project

15. The design of the Expansion Project is not complete; however, the conceptual design is described below. Attachment B depicts the conceptual process flow diagram for the proposed Expansion Project.

16. The RWD describes the District's plans to upgrade the existing headworks and lift station to provide a hydraulic capacity of 0.5 mgd and provide redundancy in case of emergencies. The headworks would include a grinder, a by-pass channel with a bar screen, and a Parshall flume with recording flow meter. The lift station would include a wet well with a triplex pumping station, which would discharge to an extended aeration biological treatment system.

17. The RWD describes the District's plans to construct a new extended aeration biological treatment system to replace the existing clarigester and mechanical aerated pond system. The treatment process includes an anoxic step to reduce nitrogen in the effluent. The WWTF will consist of a complete mix aeration basin, three aerated settling ponds, effluent storage ponds, and lined sludge handling and storage facilities.

18. The water balance presented in the RWD indicates that the District will need approximately 170 acre-feet of effluent storage. The District plans to retain the existing stabilization/storage ponds with a combined capacity of about 72 acre-feet, and construct a new effluent storage pond at the WWTF with a capacity of about 88 acre-feet to achieve the necessary storage capacity.

19. The RWD indicates that the proposed discharge will achieve the following effluent quality.

Constituent/Parameter	Units[1]	Monthly Average
Monthly Average Discharge Flow	mgd	0.5
PH	s.u.	6.0-9.0[2]
BOD_5[3]	mg/L	10
TSS[4]	mg/L	15
Ammonia as Nitrogen	mg/L	1
Nitrate as NO_3	mg/L	8

1 mgd = million gallons per day. mg/L = milligrams per liter
2 Shown as a daily minimum and maximum range
3 5-day biochemical oxygen demand (BOD)
4 Total suspended solids (TSS)

Sanitary Sewer Overflows

20. A "sanitary sewer overflow" is defined as a discharge to ground or surface water from the sanitary sewer system at any point upstream of the treatment facility. Temporary storage and conveyance facilities (such as wet wells, regulated impoundments, tanks, highlines, etc.) may be part of a sanitary sewer system and discharges to these facilities are not considered sanitary sewer overflows, provided that the waste is fully contained within these temporary storage/conveyance facilities.

21. On 2 May 2006, the State Water Board adopted Statewide General Waste Discharge Requirements For Sanitary Sewer Systems General Order No. 2006-003-DWQ (General Order). The General Order requires all public agencies that own or operate sanitary sewer systems greater than one mile in length to comply with the order. The Discharger's collection system is greater than one mile in length; therefore, the General Order is applicable. The application or Notice of Intent (NOI) for coverage under the general permit must be submitted to the State Water Resources Control Board by 1 November 2007.

Water Recycling

22. WDRs Order No. R5-2000-096 incorporated water-recycling specifications to allow the Discharger to implement water recycling. The Discharger currently uses undisinfected secondary-treated effluent to irrigate approximately 43 acres of pasture owned by the Discharger for grazing non-milking cattle.

23. As part of the Expansion Project the Discharger plans to enter a long term lease agreement and add about 160 acres of privately owned farmland to its existing pasture for water recycling (hereafter Reclamation Area). Recycled undisinfected secondary-treated effluent will be combined with irrigation water to irrigate feed and fodder crops grown in the Reclamation Area such as cotton, alfalfa, silage corn, and pasture for non-milking cattle.

24. According to the RWD, treated effluent will be applied at plant uptake rates for both nitrogen and water application. Irrigation tailwater will be controlled through such measures as perimeter berms and/or grading the area to prevent off-site drainage.

25. The RWD demonstrates that with the addition of the proposed 7.4 acre effluent storage pond the Reclamation Area will be sufficient to maintain the water balance at the proposed flow capacity of 0.5 mgd. Based upon a maximum permitted daily flow limit of 0.5 mgd, the hydraulic load to the Reclamation Area would be about 441 acre-feet/year. With a nitrogen concentration of 25 mg/L in the effluent (based on current wastewater characteristics), the nitrogen provided to the Reclamation Area would only satisfy between 30 and 50 percent of the crop demand, based on a nitrogen uptake of 480 lbs/acre/year for alfalfa as shown in the *Western Fertilizer Handbook*.

Site-Specific Conditions

26. The WWTF is in an arid climate characterized by hot dry summers and mild winters. The rainy season generally extends from November through March. Occasional rains occur during the spring and fall months, but summer months are dry. Average annual precipitation and evaporation in the discharge area are about 8.18 inches and 78.14 inches, respectively, according to information published by California Department of Water Resources (DWR).

27. Soils in the vicinity of the WWTF and the Reclamation Area consist of Akers and Akers saline-sodic fine sandy loam according to the U.S. Soil Conservation Service (now the Natural Resources Conservation Service). Permeability of the surface soils is moderate to moderately slow. Published infiltration rates for these soils range from about 0.06 to 2.0 inches per hour.

28. Surface water drainage in the area is by sheet flow. Runoff in the region is toward Deer Creek, three miles south of the WWTF and Reclamation Area.

29. The WWTF is not within a 100-year floodplain according to Federal Emergency Management Agency maps.

30. The Discharger is not required to obtain coverage under a National Pollutant Discharge Elimination System general industrial storm water permit for the WWTF because all storm water runoff is retained onsite and does not discharge to a water of the United States.

31. Land use in the WWTF vicinity is primarily agricultural. Immediately east of the WWTF is an abandoned airport, Harmon Field, owned by Tulare County. The closest residential development is approximately one half mile east of the WWTF. Primary crops grown in the vicinity of the WWTF include cotton, alfalfa, corn (forage), almonds, walnuts, and other row crops. Additional crops including grapes, plums, and hay and grain crops are typically grown in the vicinity of the WWTF according to DWR land use data published in 1999. Most crops in this area are furrow irrigated, although some are sprinkler irrigated, according to the University of California Cooperative Extension. Irrigation water is supplied primarily by groundwater.

Groundwater Considerations

32. Groundwater in the vicinity of the WWTF is encountered at about 200 feet below ground surface (bgs) and flows northwesterly, according to information in *Lines of Equal Elevation of Water in Wells in Unconfined Aquifer*, published by Department of Water Resources in Spring 2004.

33. Source water for the community of Pixley is provided by four wells. With the exception of arsenic, which exceeds the primary maximum contaminant level (MCL) of 10 ug/L, the source water is of relatively good quality, as indicated by the 2003 Annual Water Quality Report. Concentrations of nitrate and iron exceed the drinking water primary and secondary maximum contaminant levels (MCL) specified in Title 22 of California Code of Regulations (CCR) of 45 mg/L and 0.3 mg/L, respectively, in one or more of these wells. However, the average of the concentrations between the four wells is within acceptable levels. Excerpts from this report are presented below.

Constituent/Parameter	Units	Range	Average
Arsenic	Ug/L	3.0 – 25	14.0
Chloride	Mg/L	5 – 41	19.8
Sulfate	Mg/L	8 – 32	17.2
EC	µmhos/cm	207 – 1080	601
Iron	Mg/L	< 0.05 – 7.9	1.0
Boron	Mg/L	< 0.05 – 0.06	< 0.05
Hardness	Mg/L	2 – 47	20.8
Nitrate (as NO_3)	Mg/L	< 0.4 – 84	17.9
Sodium	Mg/L	39 – 46	42
TDS	Mg/L	150 – 680	388

34. The Discharger installed three groundwater-monitoring wells around the WWTF and the existing Reclamation Area in 2001. Since 2001, depth-to-groundwater has been between 130 to 160 feet bgs. The three monitoring wells were reportedly dry in 2005 but recovered in 2006. Groundwater data shows that gradient and flow direction in the area has varied, but is generally to the north-northeast or northwest.

35. Groundwater data for selected constituents in 2006 is presented below:

Constituent/Parameter	Units	MW-1	MW-2	MW-3
		up-gradient	up-gradient	down-gradient
EC	µmhos/cm	927 – 1020	570 – 679	545 – 694
Total Dissolved Solids	mg/L	600 – 660	320 – 430	360 – 470
Nitrate (NO_3-N)	mg/L	4.8 – 8.7	3.4 – 5.0	11.6 – 14.8
Iron	mg/L	0.06	0.07	0.05

36. Based on existing groundwater data, shallow groundwater beneath the WWTF is generally of good quality. However, elevated EC concentrations detected in MW-1, adjacent to the unlined sludge drying beds, and nitrate concentrations in MW-3, down-gradient of the wastewater ponds, in excess of the MCL indicate that shallow groundwater may have been impacted by operations at the WWTF.

Basin Plan, Beneficial Uses, and Water Quality Objectives

37. The Water Quality Control Plan for the Tulare Lake Basin, 2nd Edition, (hereafter Basin Plan) designates beneficial uses, establishes numerical and narrative water quality objectives, contains implementation plans and policies for protecting all waters of the basin, and incorporates by reference plans and policies of the State Water Board. Pursuant to Section 13263(a) of the California Water Code (CWC), these waste discharge requirements implement the Basin Plan.

38. The WWTF is in Detailed Analysis Unit (DAU) No. 243 within the Tule Basin hydrologic unit. The Basin Plan designates the beneficial uses of groundwater in this DAU as municipal and domestic supply, agricultural supply, industrial service supply, and wildlife habitat.

39. The Basin Plan includes a water quality objective for chemical constituents that, at a minimum, requires waters designated as domestic or municipal supply to meet the MCLs specified in Title 22. The Basin Plan's incorporation of these provisions by reference is prospective, and includes future changes to the incorporated provisions as the changes take effect. The Basin Plan recognizes that the Regional Water Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses.

40. The Basin Plan establishes narrative water quality objectives for Chemical Constituents, Tastes and Odors, and Toxicity. The Toxicity objective, in summary, requires that groundwater be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial uses. Quantifying a narrative water quality objective requires a site-specific evaluation of those constituents that have the potential to impact water quality and beneficial uses.

41. The Basin Plan identifies the greatest long-term problem facing the entire Tulare Lake Basin as the increase in salinity in groundwater, which has accelerated due to the intensive use of soil and water resources by irrigated agriculture. The Basin Plan recognizes that degradation is unavoidable until there is a long-term solution to the salt imbalance. Until then, the Basin Plan establishes several salt management requirements, including:

    a. The incremental increase in salts from use and treatment must be controlled to the extent possible. The maximum EC shall not exceed the EC of the source water plus 500 µmhos/cm. When the source water is from more than one source, the EC shall be a weighted average of all sources.

b. Discharges to areas that may recharge good quality groundwaters shall not exceed an EC of 1,000 µmhos/cm, a chloride content of 175 mg/L, or a boron content of 1.0 mg/L.

These effluent limits are considered best practicable treatment or control (BPTC).

42. The list of crops in Finding 31 is not intended as a definitive inventory of crops that are or could be grown in the area affected by the discharge, but is representative. Based on climate, and soil type, it is not likely that crops sensitive to salt and boron will be capable of being grown in the area; however, further information regarding the types of crops grown, background groundwater conditions, and overall effluent quality is necessary to make a final determination.

43. The Basin Plan requires municipal WWTFs that discharge to land to comply with treatment performance standards for BOD_5 and TSS. WWTFs that preclude public access and discharge less than 1 mgd must provide removal of 80 percent or reduction to 40 mg/L, whichever is more restrictive, of both BOD_5 and TSS. WWTFs that discharge less then 1 mgd must provide reduction to 40 mg/L of both BOD_5 and TSS.

Antidegradation Analysis

44. State Water Resources Control Board Resolution No. 68-16 ("Policy with Respect to Maintaining High Quality Waters of the State") (hereafter Resolution 68-16) prohibits degradation of groundwater unless it has been shown that:

a. The degradation is consistent with the maximum benefit to the people of the State;

b. The degradation will not unreasonably affect present and anticipated future beneficial uses;

c. The degradation does not result in water quality less than that prescribed in state and regional policies, including violation of one or more water quality objectives; and

d. The discharger employs BPTC to minimize degradation.

45. Constitutes of concern that have the potential to degrade groundwater include, in part, salts and nutrients. However, the discharge will likely not degrade the beneficial uses of groundwater because:

a. For salinity, the Basin Plan contains effluent limits (EC of SW + 500 µmhos/cm, and/or 1,000 µmhos/cm max.) that considered antidegradation when adopted. The EC of the discharge meets both limits and should therefore not unreasonably degrade the beneficial uses of groundwater with respect to salinity.

b. For nitrogen, practicable measures are: 1) treating the effluent such that it is below objectives for drinking water, or 2) storing the effluent in a manner that protects the underlying groundwater from percolation from ponds until it can be beneficially used on crops. The conditions of this Order establishing a nitrogen limit or adequate

effluent storage ponds and recycling wastewater on crops should preclude further degradation of groundwater for nitrate.

Treatment and Control Practices

46. The Expansion Project described in Findings 15 through 19, once completed, provides treatment and control of the discharge that incorporates:
    a. secondary treatment;
    b. a nitrogen removal treatment process;
    c. appropriate biosolids storage and disposal practices;
    d. an operation and maintenance (O&M) manual; and
    e. certified operators to ensure proper operation and maintenance.

47. This Order establishes groundwater limitations for the WWTF that will not unreasonably threaten present and anticipated beneficial uses or result in groundwater quality that exceeds water quality objectives set forth in the Basin Plan. This Order includes a monitoring and reporting program that contains groundwater monitoring to assure that the highest water quality consistent with the maximum benefit to the people of the State will be achieved.

Water Recycling Criteria

48. Domestic wastewater contains pathogens harmful to humans that are typically measured by means of total or fecal coliform, as indicator organisms. California Department of Health Services (DHS), which has primary statewide responsibility for protecting public health, has established statewide criteria in Title 22, California Code of Regulations, Section 60301 et seq., (hereafter Title 22) for the use of recycled water and has developed guidelines for specific uses. Revisions of the water recycling criteria in Title 22 became effective on 2 December 2000. The revised Title 22 expands the range of allowable uses of recycled water, establishes criteria for these uses, and clarifies some of the ambiguity contained in the previous regulations.

49. A 1988 Memorandum of Agreement (MOA) between DHS and the State Water Resources Control Board (State Water Board) on the use of recycled water establishes basic principles relative to the agencies and the regional water boards. In addition, the MOA allocates primary areas of responsibility and authority between these agencies, and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to the use of recycled water in California.

50. State Water Board Resolution No. 77-1, Policy with Respect to Water Recycling in California, encourages recycling projects that replace or supplement the use of fresh water, and the Water Recycling Law (California Water Code Section 13500-13529.4) declares that utilization of recycled water is of primary interest to the people of the State in meeting future water needs.

51. The Basin Plan encourages recycling on irrigated crops wherever feasible and indicates that evaporation of recyclable wastewater is not an acceptable permanent disposal method where the opportunity exists to replace an existing use or proposed use of fresh water with recycled water.

52. Title 22, Section 60323 requires recyclers of treated municipal wastewater to submit an engineering report detailing the use of recycled water, contingency plans, and safeguards. The Discharger submitted an engineering report to the Regional Water Board and DHS pursuant to Title 22, Section 60323, for its water recycling operations for the Reclamation Area including the proposed 160-acre farmland and existing 43-acre pasture in January 2003. The DHS provided comments on the Title 22 Engineering report on 11 February 2003. The most recent Update to the Title 22 Engineering report submitted was approved by the DHS on 2 May 2007.

Other Regulatory Considerations

53. The United States Environmental Protection Agency (EPA) has promulgated biosolids reuse regulations in Title 40, Code of Federal Regulations, Part 503, Standards for the Use or Disposal of Sewage Sludge, which establishes management criteria for protection of ground and surface waters, sets application rates for heavy metals, and establishes stabilization and disinfection criteria. The Discharger may have separate and/or additional compliance, reporting, and permitting responsibilities to EPA. The RWD states that all biosolids will be hauled to a separate permitted facility.

54. As the discharge consists of treated municipal sewage and incidental discharges from treatment and storage facilities associated with a municipal wastewater treatment plant, and as these discharges are regulated by waste discharge requirements consistent with applicable water quality objectives, the Facility and its discharge is exempt from containment pursuant to Title 27, Section 20090(a).

CEQA

55. The Discharger certified a mitigated negative declaration (MND) on 3 May 2005 in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000, et, seq.) and the State CEQA guidelines (Title 14, Division 6, California Code of Regulations, as amended). The MND indicates that the discharge will comply with Regional Water Board regulations, which will mitigate any groundwater impacts.

56. This Order implements measures necessary to mitigate any adverse impacts to groundwater from the Expansion Project to less than significant levels, including:

    a. Effluent Limitation B.1, which restricts flow to 0.29 mgd until the Discharger can treat and dispose of the proposed increase in discharge flow in accordance with the terms and conditions of this Order and the CWC.

    b. Effluent Limitations B.2 and B.4, which establish effluent limitations consistent with the Basin Plan.

c. Discharge Specification C.7, which stipulates waste constituents cannot be released or discharged in a concentration or mass that causes violation of the Order's groundwater limitations.

General Findings

57. Pursuant to CWC Section 13263(g), discharge is a privilege, not a right, and adoption of this Order does not create a vested right to continue the discharge.

58. The Regional Water Board will review this Order periodically and will revise requirements when necessary.

59. California Water Code Section 13267(b) states that: "In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."

60. The technical reports required by this Order and the attached Monitoring and Reporting Program No. R5-2007-____ are necessary to assure compliance with these waste discharge requirements. The Discharger operates the Facility that discharges the waste subject to this Order.

61. The California Department of Water Resources set standards for the construction and destruction of groundwater wells, as described in California Well Standards Bulletin 74-90 (June 1991) and Water Well Standards: State of California Bulletin 94-81 (December 1981). These standards, and any more stringent standards adopted by the State or county pursuant to California Water Code Section 13801, apply to all monitoring wells.

Public Notice

62. All the above and the supplemental information and details in the attached Information Sheet, which is incorporated by reference herein, were considered in establishing the following conditions of discharge.

63. The Discharger and interested agencies and persons have been notified of the intent to prescribe waste discharge requirements for this discharge, and they have been provided an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

64. All comments pertaining to the discharge were heard and considered in a public meeting.

IT IS HEREBY ORDERED that, Waste Discharge Requirements Order No. R5-2000-096 is rescinded and that, pursuant to Sections 13263 and 13267 of the CWC, the Pixley Public Utility District and its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, shall comply with the following:

A. Prohibitions

1. Discharge of wastes to surface waters or surface water drainage courses is prohibited.

2. Bypass or overflow of untreated wastes, except as allowed by Provision E.2 of Standard Provisions and Reporting Requirements, is prohibited.

3. Discharge of waste classified as 'hazardous', as defined in Section 2521(a) of Title 23, California Code of Regulations, Section 2510 et seq., is prohibited. Discharge of waste classified as 'designated,' as defined in California Water Code Section 13173, in a manner that causes violation of groundwater limitations, is prohibited.

B. Effluent Limitations

1. The monthly average discharge flow shall not exceed:

   a. 0.29 mgd until the Expansion Project is complete; or

   b. 0.5 mgd after the Expansion Project is complete

2. The discharge shall not exceed the following limitations:

Constituent	Units	Monthly Average	Daily Maximum
BOD_5	mg/L	40	80
TSS[1]	mg/L	40	80

[1] total suspended solids

3. After the Expansion Project is complete, the arithmetic mean of BOD_5 and TSS in effluent samples collected over a monthly period shall not exceed 20 percent of the arithmetic mean of the values for influent samples collected at the same times during the same period (80 percent removal).

4. After the Expansion Project is complete, the Total Nitrogen of the discharge shall not exceed a monthly average of 10 mg/L unless Provision G.13 is satisfied.

5. The annual flow-weighted average EC of the discharge shall not exceed the flow-weighted average EC of the source water plus 500 µmhos/cm, or a maximum of

1000 µmhos/cm, whichever is less. The flow-weighted average of the source water shall be a moving average for the most recent 12 months.

C. Discharge Specifications

1. All conveyance, treatment, storage, and disposal units shall be designed, constructed, operated, and maintained to prevent inundation or washout due to floods with a 100-year return frequency.

2. Public contact with effluent shall be precluded through such means as fences, signs, or acceptable alternatives.

3. Objectionable odors shall not be perceivable beyond the limits of the WWTF property or the Reclamation Area at an intensity that creates or threatens to create nuisance conditions.

4. Effluent storage ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the winter. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns.

5. On or about **1 October** of each year, the available storage pond capacity shall at least equal the volume necessary to comply with Discharge Specification C.4.

6. Ponds shall be managed to prevent breeding of mosquitoes. In particular,

   a. An erosion control plan should assure that coves and irregularities are not created around the perimeter of the water surface.

   b. Weeds shall be minimized through control of water depth, harvesting, and herbicides.

   c. Dead algae, vegetation and other debris shall not accumulate on the water surface.

   d. Vegetation management operations in areas in which nesting birds have been observed shall be carried out either before or after, but not during, the 1 April to 30 June bird nesting season.

7. No waste constituent shall be released or discharged, or placed where it will be released or discharged, in a concentration or in a mass that causes violation of groundwater limitations.

D. Recycling Specifications

The following specifications apply to use areas under the ownership or control of the Discharger. Other use areas are covered by separate water recycling requirements.

1. Recycled water (i.e., effluent) shall remain within the Reclamation Area. Recycled water provided off-site shall only be provided to users that hold Regional Water Board adopted water reclamation requirements, or users who have obtained a waiver of reclamation requirements from the Regional Water Board.

2. Use of recycled water shall be limited to flood irrigation of fodder, fiber, seed crops not eaten by humans or for grazing of non-milking cattle and shall comply with the provisions of Title 22.

3. The Discharger will maintain the following setback distances from areas irrigated with recycled water:

Setback Distance (feet)	To
25	Property Line
30	Public Roads
50	Drainage courses
100	Irrigation wells
150	Domestic wells

4. No physical connection shall exist between recycled water piping and any domestic water supply or domestic well, or between recycled water piping and any irrigation well that does not have an air gap or reduce pressure principle device.

5. The perimeter of the Reclamation Areas shall be graded to prevent ponding along public roads or other public areas and prevent runoff onto adjacent properties not owned or controlled by the Discharger.

6. Areas irrigated with recycled water shall be managed to prevent nuisance conditions or breeding of mosquitoes. More specifically:

   a. All applied irrigation water must infiltrate completely within a 48-hour period;

   b. Ditches not serving as wildlife habitat should be maintained free of emergent, marginal, and floating vegetation; and

   c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitoes shall not be used to store recycled water.

7. Areas irrigated with recycled water shall be posted with warning signs in accordance to Title 22, Section 60310 (g). Signs with proper wording (shown below) of a size no less than four inches high by eight inches wide shall be placed at all areas of public access and around the perimeter of all areas used for effluent disposal or conveyance to alert the public of the use of recycled water. All signs shall display an international symbol

similar to that shown in Attachment C, which is attached hereto and made a part of this Order by reference, and present the following wording:

"RECYCLED WATER – DO NOT DRINK"

"AGUA DE DESPERDICIO RECLAMADA – POR FAVOR NO TOME"

8. Reclamation of WWTF effluent shall be at reasonable agronomic rates considering the crop, soil, climate, and irrigation management plan. The annual nutrient loading of reclamation areas, including the nutritive value of organic and chemical fertilizers and of the recycled water, shall not exceed crop demand.

E. Sludge Specifications

Sludge in this document means the solid, semisolid, and liquid residues removed during primary, secondary, or advanced wastewater treatment processes. Solid waste refers to grit and screening material generated during preliminary treatment. Residual sludge means sludge that will not be subject to further treatment at the WWTF. Biosolids refers to sludge that has undergone sufficient treatment and testing to qualify for reuse pursuant to federal and state regulations as a soil amendment for agriculture, silviculture, horticulture, and land reclamation.

1. Sludge and solid waste shall be removed from screens, sumps, aeration basins, ponds, clarifiers, etc. as needed to ensure optimal plant operation.

2. Treatment and storage of sludge generated by the WWTF shall be confined to the WWTF property.

3. Any handling and storage of residual sludge, solid waste, and biosolids on property of the WWTF shall be temporary (i.e., no longer than two years) and controlled and contained in a manner that minimizes leachate formation and precludes infiltration of waste constituents into soils in a mass or concentration that will violate groundwater limitations of this Order.

7. Residual sludge, biosolids, and solid waste shall be disposed of in a manner approved by the Executive Officer and consistent with Title 27. Removal for further treatment, disposal, or reuse at sites (i.e., landfill, composting sites, soil amendment sites) operated in accordance with valid waste discharge requirements issued by a regional water quality control board will satisfy this specification.

8. Use of biosolids as a soil amendment shall comply with valid waste discharge requirements issued by a regional water quality control board or State Water Board. In most cases, this means the General Biosolids Order (State Water Board Water Quality Order No. 2004-12-DWQ "General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use as a Soil Amendment in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities"). For a biosolids use project to be authorized by the General Biosolids Order, the Discharger must file a complete Notice of Intent and receive a Notice of Applicability for each project.

9. Any proposed change in sludge use or disposal practice shall be reported in writing to the Executive Officer at least 90 days in advance of the change.

F. Groundwater Limitations

1. Release of waste constituents from any treatment or storage component associated with the WWTF shall not cause or contribute to groundwater:

   a. Containing constituent concentrations in excess of the concentrations specified below or natural background quality (as determined in Finding 35 and updated as appropriate as a result of ongoing monitoring), whichever is greater:

      (i) Nitrate as nitrogen of 10 mg/L.

      (ii) Total coliform organisms of 2.2 MPN/100 mL.

      (ii) For constituents identified in Title 22, the MCLs quantified therein.

   b. Taste or odor-producing constituents, or toxic substances, in concentrations that cause nuisance or adversely affect beneficial uses.

G. Provisions

1. The Discharger shall comply with the Standard Provisions and Reporting Requirements for Waste Discharge Requirements, dated 1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as Standard Provisions.

2. The Discharger shall comply with Monitoring and Reporting Program (MRP) No. R5-2007-____, which is part of this Order, and any revisions thereto as adopted by the Regional Water Board or approved by the Executive Officer. The submittal date shall be no later than the submittal date specified in the Monitoring and Reporting Program for Discharger self-monitoring reports.

3. The Discharger shall keep at the WWTF a copy of this Order, including its MRP, Information Sheet, attachments, and Standard Provisions, for reference by operating personnel. Key operating personnel shall be familiar with its contents.

4. The Discharger shall not allow pollutant-free wastewater to be discharged into the Facility collection, treatment, and disposal systems in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means storm water (i.e., inflow), groundwater (i.e., infiltration), cooling waters, and condensates that are essentially free of pollutants.

5. The Discharger must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the

Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. This Provision requires the operation of back-up or auxiliary facilities or similar systems that are installed by the Discharger only when the operation is necessary to achieve compliance with the conditions of the Order.

6. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. To demonstrate compliance with sections 415 and 3065 of Title 16, CCR, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

7. The Discharger must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Accordingly, the Discharger shall submit to the Regional Water Board on or before each report due date the specified document or, if an action is specified, a written report detailing evidence of compliance with the date and task. If noncompliance is being reported, the reasons for such noncompliance shall be stated, plus an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Regional Water Board by letter when it returns to compliance with the time schedule. Violations may result in enforcement action, including Regional Water Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.

8. In the event of any change in control or ownership of land or waste treatment and storage facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the appropriate Regional Water Board office.

9. To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the address and telephone number of the persons responsible for contact with the Regional Water Board and a statement. The statement shall comply with the signatory paragraph of Standard Provision B.3 and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. If approved by the Executive Officer, the transfer request will be submitted to the Regional Water Board for its consideration of transferring the ownership of this Order at one of its regularly scheduled meetings.

10. As a means of discerning compliance with Discharge Specification C.3, the dissolved oxygen content in the upper zone (1 foot) of effluent in the effluent storage ponds shall

not be less than 1.0 mg/L for three consecutive sampling events. Should the DO be below 1.0 mg/L for three consecutive sampling events, the Discharger shall report the findings to the Regional Water Board and propose a remedial approach to resolve the low DO results **within 30 days**.

11. The Discharger shall maintain and operate all ponds sufficient to protect the integrity of containment levees and prevent overtopping or overflows. Unless a California civil engineer certifies (based on design, construction, and conditions of operation and maintenance) that less freeboard is adequate, the operating freeboard in any pond shall never be less than two feet (measured vertically). As a means of management and to discern compliance with this Provision, the Discharger shall install and maintain in each pond permanent markers with calibration that indicates the water level at design capacity and enables determination of available operational freeboard.

12. Following completion of the Expansion Project the Discharger shall submit a report documenting that all stockpiled sludge at the WWTF including all sludge removed from the treatment ponds has been characterized and hauled offsite to an appropriate disposal facility in accordance with Title 40, Code of Federal Regulations, Part 503, *Standards for the Use or Disposal of Sewage Sludge*.

13. The Discharger shall comply with the Effluent Nitrogen Limitation (Discharge Specification B.4), or alternatively, the Discharger shall submit a design report and performance demonstration for the effluent storage ponds, and a wastewater management plan and water balance for the Reclamation Area. If this alternative is pursued, the performance demonstration shall establish that the pond design will be protective of groundwater quality and that seepage from the ponds will not contribute to nitrogen in groundwater exceeding groundwater limitations. The wastewater management plan and water balance shall demonstrate that the Reclamation Area is sufficient for the reclaimed water to be applied at plant uptake rates for both nutrient and hydraulic loading. This provision will be considered satisfied, following written acceptance from the Executive Officer.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on _____.

_____
PAMELA C. CREEDON, Executive Officer

Order Attachments:

A. Vicinity Map – WWTF
B. Process Flow Diagram – Expansion Project
C. Nonpotable International Water Symbol

Monitoring and Reporting Program No. R5-2007-____

Information Sheet
Standard Provisions (1 March 1991) (separate attachment to Discharger only)

kc/DKP: 6/19/07